

## AUTOMATED CLOSED LOOP STEP TESTING OF PROCESS UNITS

## ABSTRACT OF THE DISCLOSURE

A multivariable process controller controls a chemical, polymer or other physical process. Slow tuning and over-conservative controlled variable values are employed during step testing. While all controlled process variables are within safe limits, only one manipulated variable (MV) at a time is step changed. Several manipulated variables are moved when process variables exceed safe limits to ensure that the controlled process variables return to the safe range, such that suitable MV targets for step testing are able to be automatically discovered within a closed loop control environment. Thus, the step test is able to be conducted mostly unsupervised and/or remotely via a telephone or network connection.